

Abstract of the Disclosure

5 This application relates to a circular clarifier for separating and removing
separable matter, such as suspended solids, from a liquid. The invention
may be used, for example, for separating return activated sludge from
clarified liquor using a gas flotation process. The clarifier includes a
10 plurality of fluid feed ports for introducing influent into selected treatment
cells of the clarifier in a timed sequence, thereby achieving batch flotation
of solids or other separable matter in a continuous infeed process. A
plurality of spaced-apart, rotating flocculent handling assemblies traverse
the treatment cells for sequentially conveying flocculent into spaced-apart,
15 radially extending collection troughs. All of the flocculent handling
assemblies may be driven by a single drive means. Each flocculent
handling assembly includes a submerged beach and a scraper assembly
including a scraper blade which extends upwardly from the beach. The
beaches provide a shear plane underneath the surface layer of flocculent.
The scraper assembly includes means for lifting the scraper blade in the
20 vicinity of a trough to enable the blade to traverse over the trough and
then descend to a position in contact with or proximate to a corresponding
beach. Methods of using the clarifier to more efficiently handle return
activated sludge or other fragile flocculent are also described. The clarifier
may be stand-alone or adapted to retrofit existing circular primary or
25 secondary sedimentation clarifiers.